APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _05 April 2004_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-33_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _3,4 and 23-30_ is/are allowed.

6)☒ Claim(s) _1,2,5-22 and 31-33_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent granted
> on an application for patent by another filed in the United States before the invention by the applicant
> for patent, except that an international application filed under the treaty defined in section 351(a) shall
> have the effects for purposes of this subsection of an application filed in the United States only if the
> international application designated the United States and was published under Article 21(2) of such
> treaty in the English language.

2.   Claims **1-2,6-16,18-19,21-22, 31-33** are rejected under 35 U.S.C. 102(e) as being

anticipated by Perkins US 5,412,654.

Regarding claims **1-2,13,15-16,21-22**, the claimed step of at each node,

repeatedly examining status of links connecting to the node and if a change is detected,

flooding the network with news of the change in messages is disclosed by host

broadcasting routing information to other hosts in order for hosts to update their routing

tables and modified routes are disclosed in a broadcast routing information packet

whenever a link is broken. See column 7, lines 24-32. See column 2, lines 47-51,

column 6, lines 58-66 and column 7, lines 6-8.

Examiner has interpreted the term "self-propagating" as messages lacking stated

destinations and is flooded when received by a node as supported by specification on

pages 26-27. The claimed self-propagating message is disclosed by Perkins with

broadcast of routing information to other hosts for updating their routing tables and

receiving host subsequently broadcasting routing information to hosts. See column 7,

lines 6-8. Examiner has interpreted the term "self-terminating" as messages that are

discarded based on information contained in message as supported in specification on

page 27. The claimed self-terminating message is disclosed by broadcasted messages

having older timestamps are discarded. See column 7, lines 59-67.

Regarding claim **14**, the claimed nodes of paragraph (c) include nodes which

originated the propagating reports is disclosed by Perkins where all the mobile hosts

disclosed route changes in broadcast packets as a result of a broken link.

Regarding claims **6,18**, the claimed method of, at an originating node, generating

a message which reports a change in status of a link and transmitting the message to the

neighbors of the originating node and the claimed step in the method of, at each neighbor,

storing the message if the neighbor does not know of the change are disclosed by host

broadcasting routing information to other hosts in order for hosts to update their routing

tables and modified routes are disclosed in a broadcast routing information packet

whenever a link is broken. See column 7, lines 24-32. See column 2, lines 47-51,

column 6, lines 58-66 and column 7, lines 6-8. The claimed transmitting the message to

neighbors of the neighbor is disclosed by Perkins by routing information received in

broadcasts is also advertised by receiver when it subsequently broadcasts its routing

information. See column 7, lines 6-8.

Regarding claim **7**, the claimed step of the neighbors not transmitting

acknowledgment of receipt of the message is disclosed by Perkins by routing information

received in broadcasts and advertised by receiver when it subsequently broadcasts its

routing information but the receiver does not send acknowledgments back to originator.

See column 7, lines 6-8.

Regarding claim **8**, the claimed message being assigned an age is disclosed by packets being assigned timestamps and metrics. Regarding claims **8** and **9**, the claimed neighbor of the node and the neighbors of the neighbor decrementing the age prior to transmission is disclosed by timestamps and metrics being updated through the routing process. See column 5, lines 19-27, column 7, and lines 27-29.

Regarding claim **10**, the claimed neighbor discarding the message if the neighbor has previously received the message is disclosed by routes with older timestamps being discarded or existing routes being discarded. See column 7, lines 59-67.

Regarding claims **11,19**, the claimed method of generating a message which reports a change in status of a link and transmitting the message to neighbors in the originating node in the network and after all nodes have received the message, terminating propagation of messages and the claimed without informing the originator of receipt of the message by nodes. is disclosed by host broadcasting routing information to other hosts in order for hosts to update their routing tables, modified routes are disclosed in a broadcast routing information packet whenever a link is broken, routes with older timestamps being discarded or existing routes being discarded and no acknowledgments sent to originator. See column 7, lines 6-8, 24-32, lines 59-67, column 2, lines 47-51, column 6, lines 58-66.

Regarding claim **12**, the claimed replacing of propagating reports with new reports is anticipated by modified routes are disclosed in a broadcast routing information packet whenever a link is broken. See column 7, lines 24-32.

Regarding claims **31-33**, the claimed node generating a message which it transmits to its neighbors, who copy it to their neighbors and so on thereby generating the

flooding with messages is disclosed by routing information packets generated by mobile

host and propagated to their neighbors and so on. See column 8, lines 5-27.

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Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims **5, 17, 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Perkins in view of Choi US 6,449,257.

Regarding claims **5,17,20**, the claimed method of generating a message which

reports a change in status of a link and transmitting the message to all the nodes in the

network is anticipated by host broadcasting routing information to other hosts in order for

hosts to update their routing tables. See column 2, lines 47-51, column 6, lines 58-66 and

column 7, lines 6-8.

The claimed repeating the steps of generating new reports and propagating them

to all the nodes in the network is disclosed by modified routes are disclosed in a

broadcast routing information packet whenever a link is broken. See column 7, lines 24-

32.

Perkins discloses all of the claims except for amended limitation of sending test

packets on links and receive returned test packets on links and using testing to generate

reports of status of links. Choi discloses use of test packets and identifying the link state

of trunks utilizing test packets and network management state is renewed whenever test

packet is transmitted. See columns 3-4 and column 6. At the time the invention was

made it would have been obvious to a person of ordinary skill in the art to modify Perkins

with use of test packets for checking link status as part of process of reporting status of

links. One of ordinary skill in the art would be motivated to do this for proper routing

and up to date information about failed links.

Allowable Subject Matter

5.   Claims **3-4, 23-30** are allowed. Prior art of record, in single or in combination, do

not disclose waiting a predetermined interval T2 and if no change detecting, flooding

network with that news at time T2, testing of data link and if indicated defective,

generating route status packets, comparing route status packets with incoming packet,

updating status table, queuing packets which would be transmitted over defective link

and once deemed operational, transmitting over link and generating substitute routes and

initiating process of emptying queue.

Response to Arguments

1.   Applicant's arguments with respect to claims **1-30** have been considered but are

not persuasive. Examiner appreciates detailed description of prior art.

Regarding claims **1, 15,** Applicant argues reference Perkins does not disclose

claimed self-propagating as Examiner interprets them as messages lacking stated

destinations. Examiner contends self-propagating had actually been interpreted in

previous office action as lacking stated destinations as they are messages flooded to all

the nodes in the network not just one specific node.

Applicant argues reference Perkins does not disclose self-terminating messages as

disclosed in instant application. As said in previous office action, Examiner has

interpreted self-terminating to be messages discarded as stated on page 27 of

specification of instant application and Perkins discloses host receiving new routing

information which is compared to information already available from previous routing

information packets. Any route with a more recent timestamp is used and routes with

older timestamps are discarded. Applicant argues Perkins does not disclose discarding

messages but data previously stored in the routing tables which is erroneous. A new

routing information packet can be discarded as Perkins discloses in column 7, lines 59-67

that any route with a more recent timestamp is used.

Applicant argues even if Perkins discloses discarding messages, the language of

claim 1 discloses messages contain "news of the change" and a message with an old

timestamp does not contain news of the change, it may contain news of a previous change

but not of the change in claim 1. Examiner contends Perkins discloses in column 7, lines

42-67, broadcast of routing information packets can be of the type of incremental routing

update which contains only information changed since last update which teaches claimed

subject matter of messages indicating news of change.

Applicant argues Perkins does not disclose repeated examining status of links

connecting to the node. Examiner contends Perkins disclose in column 7, lines 24-32 that

when a link connected to a mobile host is broken, steps start in motion to broadcast this

routing change to other nodes. This determination of whenever a link is broken teaches

on the subject matter of repeated examining status of links connecting to node.

Regarding claim **5**, Examiner submits reference Choi US 6,449,257 for amended

limitation of sending test packets on links and receive returned test packets on links and

using testing to generate reports of status of links. Choi discloses use of test packets and

identifying the link state of trunks utilizing test packets and network management state is

renewed whenever test packet is transmitted. See columns 3-4 and column 6.

Regarding claims **8-9**, Applicant argues assigning a timestamp to messages does

not disclose claimed decrementing of age. Examiner contends timestamp of link status

information packets being broadcast is used to determine how "old" the routing

information is and the updating of timestamps of messages throughout routing process

keeps these messages more recent or "young", thus decrementing the age.

Regarding claim **10**, Applicant argues Perkins does not disclose neighbor

discarding message if neighbor has previously received message. Examiner contends

Perkins discloses host receiving new routing information which is compared to

information already available from previous routing information packets. Any route with

a more recent timestamp is used and routes with older timestamps are discarded.

Applicant argues Perkins does not disclose discarding messages due to message content

and that message content is in fact irrelevant. Applicant argues it is the timestamp which

causes the discard. Examiner contends that this argument is irrelevant since claims reads

"neighbor discards message if neighbor has previously received message which Examiner

interprets as been previously made available in a routing information packet to the node

based on timestamp. Additionally, a new routing information packet can be discarded as

Perkins discloses in column 7, lines 59-67 that any route with a more recent timestamp is used.

Regarding claim **11**, Applicant argues Perkins does not disclose generation of one message which reports change in status of link and propagating the message. Examiner contends Perkins discloses route change due to broken link are immediately disclosed in a broadcast routing information packet. See column 7, lines 24-32.

Regarding claim **12**, Applicant requests Examiner to show where claimed step of termination of propagation includes replacing message with a newer message. Perkins discloses when new routing information packet is found to have a new timestamp, old message is discarded.

Regarding claim **13**, Applicant requests Examiner to show where claimed rules are disclosed in Perkins. Perkins discloses nodes able to identify broken links and to flood network with link state information to nodes (as per interpretation of self-propagating) and nodes use timestamps of messages in order to store most up to date information (self-terminating). See column 7.

Regarding claim **14**, all mobile hosts able to send routing information packets containing news of broken link discloses nodes which originated the propagating reports.

Regarding claims **16-19,20, 22, 31-33**, in light of claim language, some propagating reports return to node originating them is disclosed by Perkins as nodes broadcast or multicast routing information packets to neighbor and neighbors' neighbors nodes and so on informing of modified routes and oscillation of broadcasts occurring. See column 8.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 703-305-8078. The examiner can normally be reached on Monday-Friday from 8:00 a.m.-4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

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